



**BEST AVAILABLE COPY**

Generated Document.

(19)

(11) Publication number:

**05021378 A**

**PATENT ABSTRACTS OF JAPAN**

(21) Application number: 03202931

(51) Intl. Cl.: H01L 21/28 H01L 21/205 H01L 21/225

H01L 21/28 H01L 21/82 H01L 21/3205

H01L 27/04 H01L 21/331 H01L 29/73

H01L 21/336 H01L 29/784

(22) Application date: 13.08.91

(30) Priority: 31.08.90 JP 02228124

(43) Date of application publication: 29.01.93

(84) Designated contracting states:

(71) Applicant: HITACHI LTD

(72) Inventor: KOBAYASHI TAKASHI

IIJIMA SHINPEI

HIRAIWA ATSUSHI

KOBAYASHI NOBUYOSHI

NANBA MITSUO

HASHIMOTO KOJI

(74) Representative:

**(54) MANUFACTURE OF SEMICONDUCTOR DEVICE**

(57) Abstract:

PURPOSE: To provide a method of manufacturing a silicon film including boron which ensures excellent step-portion covering characteristic and is just suitable for

manufacturing process under a low temperature condition.

**CONSTITUTION:** An amorphous Si film is deposited by the pressure-reduced CVD method under a low temperature of 200 or higher and 400°C or lower using any one of disilane (Si<sub>2</sub>H<sub>6</sub>) or trisilane (Si<sub>3</sub>H<sub>8</sub>) and dibolane (B<sub>2</sub>H<sub>6</sub>). Thereby, a Si film including boron which ensures excellent step-portion covering characteristic can be formed. Using the obtained Si film as a diffusion source, extremely shallow junction may be formed.

**COPYRIGHT:** (C)1993, JPO&Japio



